PATENT ABSTRACTS OF JAPAN

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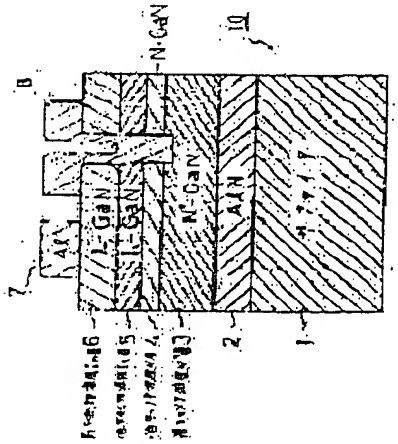
(54) LIGHT EMITTING ELEMENT OF GALLIUM NITRIDE COMPOUND SEMICONDUCTOR

(57)Abstract:

PURPOSE: To increase blue light emitting intensity of a light emitting diode by forming a double layer structure of a low carrier concentration layer and a high carrier concentration layer sequentially from the side of connecting an N-type layer to an I-type layer, and forming a double layer structure of a low impurity concentration layer having relatively low concentration of P-type impurity and a high impurity concentration layer having relatively high concentration of P-type impurity sequentially from the side of connecting an I-type layer to an N-type layer.

CONSTITUTION: A sapphire board 1 is vapor etched, an AlN buffer layer 2 is formed, a high carrier concentration layer 3 made of GaN is formed, and then an N+ type low carrier concentration layer 4 made of GaN is formed. Then, a low impurity concentration IL layer 5 of relatively low concentration (5×10^{19}/cm3) of Zn concentration made of GaN is formed, and then a high impurity concentration IH layer 6 of relatively high concentration (2×10^{20}/cm3) of Zn concentration made of GaN is formed.



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